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GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
ONE RESEARCH CIRCLE  
BLDG. K1-3A59  
NISKAYUNA, NY 12309

EXAMINER
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PATEL, PRANAV N

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JONATHAN SEBASTIAN JANSSEN,  
PHILIP PAUL BEAUCHAMP, TODD ALAN ANDERSON,  
MOHAMMED MOUNIR MAHMOUD SHALABY, WENPENG LIU, and  
ANUBHAV KUMAR

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Appeal 2016-001115  
Application 13/285,754  
Technology Center 1700

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Before CHUNG K. PAK, JEFFREY T. SMITH, and  
WESLEY B. DERRICK, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1 through 3, 5, 12, and 14 through 20.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Appellants' invention is generally directed to a central core element for a reverse osmosis separator assembly. Appeal Brief filed April 21, 2015

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<sup>1</sup> Claims 4, 6–11, and 13 stand withdrawn from consideration. Final Office Action entered July 7, 2014 (“Final Act.”), 2.

(“App. Br.”), 6. Claim 1 illustrates the subject matter on appeal and is reproduced below:

1. A central core element for a reverse osmosis separator assembly comprising:
  - a pair of central core element components, each of said core element components comprising at least one porous exhaust conduit and at least one friction coupling, the friction couplings being configured to join said core element components to form a central core element defining a cavity configured to accommodate a first portion of a membrane stack assembly;
  - wherein each core element component comprises a first section defining an exhaust cavity and a second section comprising a porous exhaust conduit,
  - wherein said porous exhaust conduit comprises a removable wall member configured to form a substantial portion of a porous exhaust conduit wall.

App. Br. 15 (Claims Appendix).

Appellants (*see generally* App. Br.) request review of the Examiner’s final rejection of claims 1–3, 5, 12, and 14–20<sup>2</sup> under 35 U.S.C. § 103(a) as unpatentable over Beauchamp et al. (US 2010/0096309 A1, published April 22, 2010; hereinafter “Beauchamp”) and Fecondini et al. (US 4,229,305, issued October 21, 1980; hereinafter “Fecondini”), which the Examiner maintained in the Answer entered August 28, 2015 (“Ans.”).

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<sup>2</sup> Although the Examiner omitted claim 15 from the statement of the rejection on page 4 of the Final Action, the Examiner addressed claim 15 on page 7 of the Final Action.

## OPINION

After review of the respective positions provided by Appellants and the Examiner, we REVERSE the rejection of claims 1–3, 5, 12, and 14–20 under 35 U.S.C. § 103(a) as unpatentable over Beauchamp and Fecondini for the reasons presented by Appellants. We add the following.

The Examiner has the burden of establishing a *prima facie* case of obviousness with respect to the subject matter recited in the claims on appeal. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[The] [patent] examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.”)

Claim 1<sup>3</sup> requires a central core element for a reverse osmosis separator assembly to comprise, *inter alia*, a pair of central core element components. Claim 1 further requires each central core element component to comprise at least one porous exhaust conduit that comprises a removable wall member that is configured to form a substantial portion of a porous exhaust conduit wall.

The Examiner contends that the porous exhaust conduit depicted in Figure 12c of Beauchamp corresponds to the removable wall member recited in claim 1. Final Act. 5; Ans. 6–7. However, we agree with Appellants that Beauchamp does not disclose or suggest a removable wall member as recited in claim 1. App. Br. 12–13.

Beauchamp discloses a central core element for a reverse osmosis separator assembly that comprises a pair of central core element

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<sup>3</sup> For the purposes of this appeal, we select claim 1, the broadest claim on appeal, as representative, and decide the propriety of the rejection under 35 U.S.C. § 103(a) based on this claim alone.

components. Beauchamp ¶¶ 62, 67; Figs. 10, 12d. Beauchamp discloses that each central core element component comprises a porous exhaust conduit 18 (Fig. 12a), and discloses that two porous exhaust conduits are joined to form a partial structure 1210 as shown in Fig. 12b. Beauchamp ¶ 62. Beauchamp discloses that the partial structure 1210 defines a cavity 450 that accommodates a third porous exhaust conduit 18 (Fig. 12c) and two membrane stack assemblies 120, as shown in Fig. 8. *Id.* Beauchamp discloses that inserting the third porous exhaust conduit 18 (Fig. 12c) into the cavity 450 of the intermediate structure 1210 (Fig. 12b) forms a central core element 440 as shown in Fig. 12d. *Id.*

The Examiner determines that the third porous exhaust conduit 18 shown in Fig. 12c of Beauchamp is a removable wall member configured to form a substantial portion of a porous exhaust conduit wall. Final Act. 5; Ans. 6–7. However, as discussed above, claim 1 requires a pair of central core element components of a reverse osmosis separator assembly to each comprise at least one porous exhaust conduit that comprises a removable wall member configured to form a substantial portion of a porous exhaust conduit wall. The plain language of claim 1 accordingly requires each central core element component to comprise a porous exhaust conduit comprising a removable wall member, and therefore requires the central core element to include two removable wall members. The plain language of claim 1 also requires the removable wall member to be a part of the porous exhaust conduit because the porous exhaust conduit “comprises” the removable wall member.

In addition, Appellants’ Specification indicates that the removable wall member is “removable” in the sense that it does not initially form a part

of the wall of the porous exhaust conduit, and the Specification further indicates that the removable wall member 210 is configured to fit within a cavity 1205 defined by a portion of the inner wall of a porous exhaust conduit 18, as illustrated in Appellants' Figure 2A. Spec. ¶¶ 36, 75.

Therefore, the removable wall member recited in claim 1 fits within a cavity formed by the inner wall of a porous exhaust conduit and in so doing forms a substantial portion of the porous exhaust conduit wall.

Contrary to the Examiner's assertions, the third porous exhaust conduit 18 shown in Fig. 12c of Beauchamp is not a removable wall member as recited in claim 1. As Appellants point out, the third porous exhaust conduit 18 shown in Fig. 12c of Beauchamp is not a *part of* a porous exhaust conduit because it constitutes a porous exhaust conduit itself. App. Br. 12. In addition, the third porous exhaust conduit 18 disclosed in Beauchamp is not configured to fit within a cavity defined by a portion of the inner wall of a porous exhaust conduit such that it forms a substantial portion of the porous exhaust conduit wall. Although the Examiner asserts that Beauchamp's third porous exhaust conduit 18 fits within the cavity 450 formed by first and second porous exhaust conduits 18 shown in Beauchamp's Fig. 2b (Ans. 7), as Appellants indicate, a membrane stack assembly is also included within cavity 450, and the third porous exhaust conduit 18 is sandwiched between two portions of the membrane stack assembly. App. Br. 13. Accordingly, Beauchamp's third porous exhaust conduit does not form a substantial portion of a porous exhaust conduit wall when inserted into cavity 450.

These structural differences between the third porous exhaust conduit 18 disclosed in Beauchamp and Appellants' removable wall member 210 are

illustrated by comparing Beauchamp's Fig. 12c and Appellants' Fig. 12A, which are reproduced below:

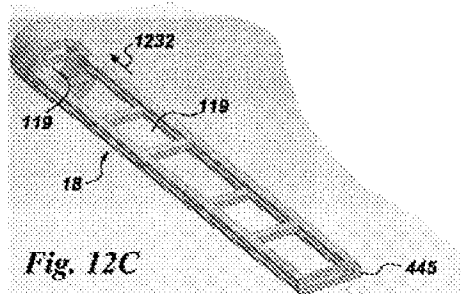
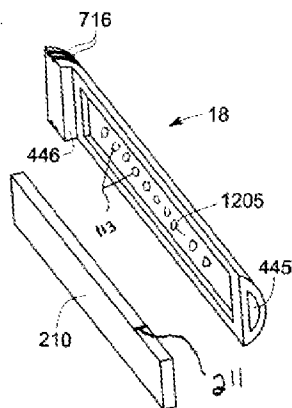


Figure 12c of Beauchamp

Figure 12c of Beauchamp depicts the structure of the third porous exhaust conduit 18. Beauchamp ¶ 62.



Application FIG. 12A

Figure 12A of Appellants' drawings depicts a porous exhaust conduit 18 and removable wall member 210 that fits into cavity 1205 of the porous exhaust conduit 18 to form a substantial portion of the porous exhaust conduit 18 wall. Spec. ¶¶ 36, 38.

In addition, even if the third porous exhaust conduit disclosed in Beauchamp did correspond to a removable wall member as the Examiner

asserts, Beauchamp does not disclose a pair of central core element components that each comprise a porous exhaust conduit comprising a removable wall member, as required by claim 1. Beauchamp discloses that only a single third porous exhaust component is included in the central core element (Fig. 12d), and Beauchamp thus fails to disclose that the central core element includes two removable wall members.

Moreover, the Examiner does not provide any explanation or reasoning establishing that one of ordinary skill in the art reasonably would have been led to modify the components of the central core element disclosed in Beauchamp in such a way as to arrive at the central core element recited in claim 1. For example, the Examiner does not identify any disclosure or suggestion in Beauchamp of forming a pair of central core element components that each include a removable wall member that forms part of a porous exhaust conduit wall, as recited in claim 1. The Examiner does not provide any explanation or reasoning as to why one of ordinary skill in the art would have been led to modify the central core element components disclosed in Beauchamp to have such a configuration.

Accordingly, on this record, we concur with Appellants that the Examiner's evidence and explanation are insufficient to establish a prima facie case of obviousness of the subject matter recited in claims 1–3, 5, 12, and 14–20 within the meaning of 35 U.S.C. § 103(a). We therefore do not sustain the rejection of these claims.



Appeal 2016-001115  
Application 13/285,754

ORDER

For the reasons set forth above and in the Appeal Brief, the decision of the Examiner is reversed.

REVERSED